What is Fugitive Dust? It's Air Pollution!

Dust is particulate matter (PM) consisting of very small liquid and solid particles. Fugitive dust is PM suspended in the air by the wind and human activities. It originates primarily from the soil and is not emitted from vents, chimneys or stacks.

Particulate Matter Can Be Hazardous to Your Health

The very smallest airborne particles are particulate matter ten micrometers in diameter or smaller (PM_{10}). Due to their very small size and weight (compared to the average human hair, which is 70 micrometers in diameter), PM_{10} can remain airborne for weeks. When inhaled, PM_{10} can travel easily to deep parts of the lungs and may remain there, causing respiratory illness, lung damage, and even premature death in sensitive individuals.

Idaho, the Dry (and Dusty) State

Idaho's weather contributes to the fugitive dust problem. Unlike most other areas of the country, we have a wet season and a dry season. Long, hot summers allow the soil to dry out thoroughly and, if the surface is disturbed repeatedly, the soil may have months to blow away before normal rainfall can again saturate and hold it in place. Some areas are also prone to high winds, making matters worse.

This brochure provides a summary of fugitive dust control requirements and is not intended to be all-inclusive. Detailed requirements are outlined in DEQ's Rules for the Control of Air Pollution in Idaho (IDAPA 58.01.01.650-651).

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Idaho Department of Environmental Quality
Air Quality Division
1410 N. Hilton
Boise, ID 83706

Air Quality in Idaho:

Controlling Fugitive Dust

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1410 N. Hilton
Boise, ID 83706
208/373-0502

Regulating Fugitive Dust in Idaho

The Department of Environmental Quality (DEQ) regulates fugitive dust emissions in Idaho. The *Rules for the Control of Air Pollution in Idaho,* IDAPA 58.01.01.651 state in part:

> ***All reasonable precautions shall be taken to prevent particulate matter from becoming airborne.***

In determining what precautions to take, consider:

- The proximity of dust emitting operations to human habitations or activities, and
- Atmospheric conditions, which might affect the movement of particulate matter.

Reasonable precautions include:

- Use of water or chemicals
- Application of dust suppressants
- Use of control equipment
- Covering of trucks
- Paving
- Removal of materials

Controlling Fugitive Dust Emissions

First – think pollution prevention!

Minimize the surface area disturbed.

The less ground you disturb, the less dust you will raise as you work, and the less clean up when your work is done.

Limit dusty work on windy days.

Put your efforts into extra dust suppression measures as needed.

Apply dust suppression measures when needed.

Monitor your dust suppression efforts to ensure that dust emissions are adequately controlled. You may need to adjust to less or more frequent application intervals depending on your efforts and the weather conditions.

Clean up dusty spills immediately.

Don't wait for the next scheduled housekeeping – the mess will just get bigger and cleanup will take longer.

Control dust in occasionally used areas:

Grow vegetative ground cover.

Growing grasses or legumes is the most effective, easiest and most economical control because these plants provide a dense, complete cover. Even when the vegetation dries up, the roots will help hold the soil in place. Don't leave open areas uncovered.

Use wind erosion controls.

Plant bushes or trees, construct wood or rock walls or earthen banks as permanent wind-breaks, or install porous wind or snow fences as more temporary measures. Reduced wind velocity allows larger particles to settle to the ground.

Apply crust-forming chemicals.

These chemicals may include mineral salts, petroleum resins, asphalt emulsion, acrylics, and adhesives. These treatments must be reapplied periodically to ensure continued effectiveness. First check with DEQ to be sure the material you want to apply is not harmful and may be used for this purpose.

Control dust in frequently used areas:

Pave haul roads and storage areas.

Heavy vehicles pulverize the surface material and create a constant source of dust. If wholesale paving is too costly, pave just the entrance and exit to minimize carryout, and gravel the remainder to reduce surface silt.

Enclose storage and handling areas.

If dusty materials are frequently loaded and unloaded in storage and handling areas, enclose the areas to reduce fugitive dust emissions. Use storage silos, three-sided bunkers or open-ended buildings. If handling is less frequent, try wind fencing. Conveyor loading may require enclosure or the use of water or foam spray bars both above and below the belt surface to reduce emissions.

Keep storage piles covered.

When storage piles are not in use, apply a physical cover or a dust suppressant spray to help reduce fugitive dust emissions. Limit the working face of the pile to the downwind side. Most emissions come from loading the pile, loadout from the pile, and truck and loader traffic in the immediate area if the pile is batch loaded. Keep the drop height low to reduce dust, and keep the ground at the base of the pile clear of spills.

Water and/or sweep often.

To ensure that vehicle traffic is not picking up dust for wind action and carryout, water and sweep roadways often. Fewer treatments are necessary in cool, wet weather.

Reduce speed limits.

Reduce speed limits on unpaved surfaces to 10 to 15 miles per hour for well-traveled areas and heavy vehicles. Never exceed 25 mph for **any vehicle** on any unpaved surface.

Prevent transport of dusty material offsite.

The transport of dusty material offsite can be minimized by rinsing vehicles before they leave the property and tightly covering loaded trucks.

Consequences of Non-compliance

Failure to reasonably control fugitive emissions may result in enforcement action by DEQ with possible penalties assessed.

Questions?

For further information and tools on how to comply:

- Contact DEQ's Air Quality Division at 208/373-0502.
- Visit DEQ's Web site at *www.deq.idaho.gov/air/prog_issues/pollutants/dust.cfm*